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AUTHOR Koewing, J. Robert; Long, Carol
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ABSTRACT

Two methods for evaluating continuing education of the Western Missouri Area Health Education Center (WMAHEC) are examined. The evaluation questions concern whether WMAHEC provided regionally accessible continuing education and whether WMAHEC catalyzed the development of administrative mechanisms to support continuing education program development. This descriptive program evaluation highlights what took place using the HUEA designated urban/rural categories by county as the mechanism to organize the results. Additional focus concerns the primary health care area designations to achieve further precision in characterizing the outcome data and to inspect the continuing education program effort using the program objectives of "professional environment" and "quality of health care" to explore impact relating to the societal goals of distribution and retention. The evaluation period covered October 1, 1978 through August 30, 1979. Sixty-six programs, 1,950 participants, and 7,150 contact hours of continuing education are the gross data base upon which the description is based. A "deficit/surplus" criteria was used to describe the impact of the continuing education program. (SW)

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CONTINUING EDUCATION

IN

WMAHEC

YEAR 07:

An Evaluation Report

October 1, 1979

Submitted by,

J. Robert Koewing
Consultant

Carol Long
Administrative Aide

Mr. Koewing is Assistant Professor in the Department of Psychiatry and Mental Health Sciences and Director of Faculty Development in the Office of Curricular Affairs at The Medical College of Wisconsin in Milwaukee.

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INTRODUCTION

Two of the classic evaluation objectives are often blurred where public programs addressed to societal goals or values concerned.[1] Some experts employ the terms "evaluation" and "evaluation research" carefully to highlight the distinction.[2] Others simplify these categorical labels to terms which are descriptive of the objective to which such efforts are addressed. Examples of these reductions include: "drawing inferences" and "demonstrating performance"[3]; "proving" (a causal relationship) and "asserting"[4]; "explaining" and "describing"[5]. These distinctions revolve around the limitations often encountered in the employment of the scientific method to the evaluation of social programs. Continuing education "evaluation" is certainly not exempt from these often cited limitations. Perhaps the most rigorous recent study which illustrates these problems is the Bertram and Brooks-Bertram article published in HEALTH EDUCATION MONOGRAPHS in the Winter of 1977.[6] Though addressed to the question of the application of the scientific method to the examination of the relationship of program characteristics and educational strategies to measured effects, their study of 65 published articles on 66 programs involving 113 separate studies highlights the distinction between evaluations the objectives of which are "descriptive" and those which are addressed to "explaining causal relationships".

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[1] Edward A. Suchman, Ph.D. Evaluative Research: Principles and Practices in Public Service and Social Action Programs. Russell Sage Foundation. New York, 1967 (I).

[2] Suchman (V)

[3] Suchman (V)

[4] Suchman (V)

[5] Suchman (V)

[6] Bertram and Brooks-Bertram

From a purely practical perspective one way to highlight this important distinction is with three quite different commonly used questions toward which evaluation efforts are addressed:

1. Did you do what you said you would do?
2. Did what you did relate to observable changes?
3. What are the contributing factors?

The first and second are obviously questions which require demonstrations of performance in quantitative terms. The third requires formulation and examination of hypotheses using a scientific approach in order to draw inferences concerning causal relationships. The first two may relate to "proven" hypotheses and therefore demonstration is sufficient, or it may relate to a societal goal or value the examination of which is impossible experimentally, unacceptable politically, not feasible because of scale or budget, or the responsibility of others. The third requires examination of hypotheses and precludes the sufficiency of demonstration.

Three of the Area Health Education Center Program Goals to which continuing education in AHEC has been legislatively and contractually related are:

> To improve the professional environment of primary health care practitioners by providing regionally accessable continuing education.
>
> To create appropriate community based educational opportunities for undergraduate students and residents.
>
> To act as a catalyst for the development of regional administrative mechanisms to support educational program development and interact with the University and its resources.

All three of these objectives relate to the AHEC Program Goal of addressing effectively the current problem of the maldistribution of primary health care practitioners by two simultaneous strategies (intended program outcomes) -

DECENTRALIZATION of undergraduate and graduate educational programs for physicians and dentists, and REGIONALIZATION of undergraduate and graduate educational programs for nursing, allied health, public health and continuing education.[7] The mechanism for implementing these strategies is an administrative partnership between a university(ies) and one or more regionally based programs. An AHEC program is an administrative vehicle which provides a delivery mechanism for specific contract interventions requiring the resources of both the University and the Community to meet the needs of both.

The AHEC program goals embedded in PL 92-151 in 1971 and reaffirmed in 1976 which relate to continuing education have been addressed in each of the contracts of the original 11 AHEC's in different fashions. Reasons for such differences are inter-institutional linkage patterns, contract objectives of bidding institutions, organizational approaches attempted and the personalities and leadership style of the Directors and their staffs. However such variation in demonstration contracts is not only to be expected, it is essenital if - by replication - a contractor attempts to develop models which will work within the existing environment into which the AHEC is inserted.

WMAHEC began in 1972 with ambitious plans to implement through centralized mechanisms a program of continuing education for the Western Missouri counties in its service region. It was not until year 06, however, that <u>any</u> formal reporting system was designed and implemented to document continuing education outcomes. The system was called "evaluation" though in fact it is more aptly labelled performance monitoring.

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[7]Public Law 92-151, 1971.

The evaluation which has been performed is descriptive and contains summary information about the program as a whole and that of the three regions within WMAHEC to which it is addressed. It is possible to locate the type of evaluation selected by WMAHEC by listing three types of program evaluation common among evaluators of programs in health:

1) project monitoring;

2) cost-benefit/cost-effectiveness; and

3) impact evaluation.

Clearly, so far as continuing education is concerned cost-benefit/effectiveness evaluation has never been WMAHEC's evaluation objective. Both project monitoring and impact have been objectives. So far as the former is concerned, the source document used to generate the data is well suited. However, the conscious decision of WMAHEC not to monitor individuals poses insurmountable obstacles to the latter. To accommodate for this weakness and address impact as a question, this report includes two methods for summarizing the performance data-one of which yields information which poses tantalizing questions for future evaluation research. Therefore it is essential to identify this evaluation report as a descriptive program evaluation which addresses primarily the issues of project monitoring as they relate to the following two overall objectives:

1) to provide regionally accessible continuing education; and

2) to act as a catalyst for the development of regional administrative mechanisms to support continuing education program development and interact with the University and its resources.

The evaluation questions, then, to which this report is addressed are:

1) Did WMAHEC provide regionally accessible continuing education? and

2) Did WMAHEC catalyse the development of administrative mechanisms to support continuing education program development?

During year 07 a continuation in the reduction of budgetary and administrative support directed to Continuing Education characterized the program efforts of WMAHEC. This description will highlight what took place using the HURA designated "Urban"/"Rural" categories by county as the mechanism to organize the results. In addition, this report will look at the "Primary Health Care Area" designations to achieve further precision in characterizing the outcome data and to inspect the continuing education program effort of WMAHEC using the program objectives of "professional environment" and "quality of health care" to explore impact relating to the societal goals of distribution and retention! [8]

A. Methodology

The following summary is based on eleven months' productivity during year 07 which began with October 1, 1978 and ended with August 30, 1979. Data included for description were generated by the regional coordinators, and/or responsible persons within the schools and departments, using the continuing education reporting form. When complete, the information contained in the forms were coded and key-punched and an SAS file created. During the last of August 1979 the file was processed for results.

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[8] "Continuing Education in WMAHEC: Year 06 - An Evaluation Report", J. Robert Koewing 1978, Page 9 (Note).

From the Office of Health Manpower Planning in Jefferson City, Missouri a current printout was obtained by Kenneth R. Mares, Ph.D., Director of Evaluation-WMAHEC which contains the most recent Missouri manpower figures by specialty (Health Professions) and location by county. These data were abstracted for the Urban/Rural/Total framework for this description. Included in those used for this report are the following professions:

Full and Part-time Physicians (M.D.'s) - 1977
Total Dentists - 1977
Total Nurses (R.N. and L.P.N.) - 1976
Full time Nurses (R.N.) - 1976
Part-time Nurses (R.N.) - 1976
Full time Nurses (L.P.N.) - 1976
Part-time Nurses (L.P.N.) - 1976
Full and Part-time Dental Hygenist - 1977

In addition to simple summary totals, both percents and ratios have been employed to describe productivity. Ratios in particular have been used to describe continuing education productivity in relation to individual professional groups. The intent is to suggest a measure of utilization in terms of impact. The ratio is to be read "for every 'x' there were 'y' available". This enables comparisions among and between the regional programs and the total. Both percents and ratios are imperfect descriptive tools because the basic unit in continuing education is the individual. However the inordinate expense and time/effort allocation required to establish and maintain individual files for

every WMAHEC participant have precluded such exact data. Thus percent and ratio estimates are used here as indirect measures of impact. The greater the percent and smaller the ratio the more evidence exists for a judgment that substantial impact upon a target population is evidenced by the data. In both cases, however, a small number of repeat participants can heavily bias the estimates. Without individual data, the findings in this description must be regarded as indicative and suggestive rather than conclusive.

B. Summary Data

Sixty-six programs, 1950 participants and 7150 contact hours of continuing education are the gross data base upon which this description is based. This compares with 1977-78 (year 06) as follows:

	1977-78	1978-79	% Change
Number of Programs	85	66	(22%)
Number of Clockhours	1353	235	(83%)
Attendance	2466	1950	(21%)
Contact Hours	9514	7150	(25%)

Figure 1 - WMAHEC Continuing Education Years 06-07
Summary Statistics Showing Percent Change

The 66 programs were distributed across four disciplines and included 12 interdisciplinary programs. The distribution is shown in Figure 2.

	Number	Percent
Medicine	8	12%
Nursing	8	12%
Dentistry	30	46%
Allied Health	8	12%
Interdisciplinary	12	18%
TOTAL	66	100%

Figure 2 - WMAHEC Continuing Education 07.
Programs by Discipline Summary

Participants data was secured using the county in which the participant's practice is located as the home county. Therefore it is possible to summarize categories. Figure 3 is a summary of the attendance (defined as participation). 34 percent of the total participants from the WMAHEC 38 counties were from counties designated Rural and Underserved. 56 percent of the participants came from the five urban counties of which 56% were dentists. Those classified as "others" in Figure 3 are Allied Health disciplines orginating in the 38 county WMAHEC service area.

C. Regional Program Summaries

The 38 counties of WMAHEC are divided into three service areas which have been designated as the areas for "regional program development". The three regions have developed quite differently consistent with existing historical circumstances together with differences in medical center priorities and local staffing.

In particular the Regional Coordinators for the two of the three areas have demonstrated a remarkable ability to achieve impressive results in spite of organizational, budgetary and leadership difficulties.

Figures 4 and 5 summarize the programs and the attendance by region and TOTAL using the HURA Urban/Rural method of presentation.

Figure 4 shows attendance throughout the three regions classified by Urban and Rural and Percent of the TOTAL Attendance. Figure 5 shows the clock hours of Continuing Education by region and TOTAL indicating the ratio of clock hours to the TOTAL designated Health Professional population obtained from the Missouri Office of Health Manpower Planning.

The difference between the totals in Figures 4 and 5 and those of Figure 3 is accounted for by participants from counties within the WMAHEC Service area but from other regions within it, or participants from Missouri counties outside the region's counties, and finally from other States. While these participants, indeed, contribute to the volumn productivity of the AHEC in the overall sense, they are not

	Urban	Rural	Other	Total	Percent
Physician	216	67		283	14%
Nurse (R.N.)	9	261		270	14%
Nurse (L.P.N.)	3	91		94	5%
Dentist	612	94	31	737	38%
Dental Hygenist	78	1		79	4%
Others	179	149	159	487	25%
TOTAL	1097	663	190	1950	100%

Figure 3 - WMAHEC Continuing Education 07
Attendance by Dicipline Showing
Urban, Rural and TOTAL

WMAHEC Regions Showing Number of Counties	Urban Counties N=5		Rural Counties N=33		Total Counties N=38	
	Number	Percent	Number	Percent	Number	Percent
TOTAL WMAHEC N=38	1,232	64%	687	36%	1,919	100%
Northwest N=9	311	16%	398	21%	709	37%
West Central N=14	4	.2%	260	14%	264	14%
Southwest N=14	917	48%	29	2%	946	49%

Figure 4 - WMAHEC Continuing Education Year 07 Attendance by Region Showing Urban and Rural and Percent

	Urban Counties N=5			Rural Counties N=33			TOTAL Counties N=38		
	Total Target Population	Total Clock Hours	Ratio	Total Target Population	Total Clock Hours	Ratio	Total Target Population	Total Clock Hours	Ratio
WMAHEC TOTAL N=38 counties	8853	136	65/1	1809	98	18/1	10662	234	46/1
Northwest N=9 counties	580	18	32/1	263	47	6/1	843	65	13/1
West Central N=14	6287	4	1572/1	977	46	21/1	7264	50	145/1
Southwest N=14	1986	114	17/1	699	5	134/1	2655	11	22/1

Figure 5 - WMAHEC Continuing Education Year 07 Clock Hours for 66 programs Showing Ratio to TOTAL Target Population

helpful to our evaluation objectives of describing the extent to which regionally accesible continuing education (#1) and regional administrative mechanisms were accomplishing the oberall AHEC program goals of improving the professional environment as a strategy to solving a problem geographical maldistribution within three distinct regions within WMAHEC. For this reason, contact hours were not included as a criterion because the participants from other regions, counties outside WMAHEC and the State of Missouri inflate it. Figure 5 is the first to give some indications of the impact of the different models employed by the three different regional coordinators within WMAHEC. The Northwest and West Central achieved more clock hours in the rural counties than the Southwest. Overall, however, more Urban County Clock Hours of Continuing Education characterized the WMAHEC program outcomes, largely due to the activities of the Dental Continuing Education programs initiated by the Southwest regional coordinator (in their employ) in Joplin and Springfield.

This pattern is seen again in the participant data contained in the following three Figures (6-8) which provide a detailed summary of programs and participants showing URBAN and RURAL by region.

NORTHWEST REGION	Number of Locations of Programs	Participants TOTAL	Participants Programs/ Urban	Participants Programs/ Rural
I. URBAN				
Buchanan	7	353	243	110
II. RURAL				
Andrew	--	36	19	17
Atchison	1	22	2	20
Gentry	1	23	3	20
Holt	--	4	--	4
Nodaway	7	171	5	166
Worth	--	5	--	5
Clinton	--	8	2	6
DeKalb	--	4	1	3
SUBTOTAL	9	273	32	241
III. NORTHWEST TOTAL	16	626	275	351

Figure 6 - MWAHEC Continuing Education Year 07: Northwest Region --- Programs and Participants by Urban and Rural Designated Counties and TOTAL.

WEST CENTRAL REGION	Number and Location of Programs	Participants TOTAL	Participants Programs/ Urban	Participants Programs/ Rural
I. URBAN				
Jackson	--	13	4	9
Clay	1	12	7	5
SUBTOTAL	1	25	11	14
II. RURAL				
Bates	--	2	2	--
Cass	1	12	--	12
Cedar	--	1	1	--
Hickory	--	1	1	--
Vernon	--	23	23	--
Benton	--	12	--	12
Henry	--	10	--	10
Johnson	--	15	1	14
Lafayette	4	62	--	62
Pettis	4	49	--	49
Platte	--	--	--	--
Ray	4	79	2	77
St. Clair	--	--	--	--
SUBTOTAL	13	266	30	236
III. WEST CENTRAL TOTAL	14	291	41	250

Figure 7 - WMAHEC Continuing Education Year 07: West Central Region - Programs and Participants by Urban and Rural Designated Counties and TOTAL

SOUTHWESTERN REGION	Number and Location of Programs	Participants TOTAL	Participants Programs/ Urban	Participants Programs/ Rural
I. URBAN				
Jasper	15	206	206	--
Green	17	336	335	1
SUBTOTAL	32	542	541	1
II. RURAL				
Barry	2	22	9	13
Dallas	--	--	--	--
Lawrence	1	31	18	13
McDonald	--	5	5	--
Polk	--	6	6	--
Barton	--	6	6	--
Christian	--	13	13	--
Dade	--	5	5	--
Newton	--	28	26	2
Stone	--	--	--	--
Taney	--	--	--	--
Webster	--	1	1	--
SUBTOTAL	3	117	89	28
III. SOUTHWESTERN TOTAL	35	659	630	29

Figure 8 - WMAHEC Continuing Education Year 07: Southwest Region - Programs and Participants by Urban and Rural Designated Counties and TOTAL

These characteristics suggest that, using the criteria URBAN/RURAL counties as measures of impact in rural and underserved areas, the WMAHEC continuing education program had a greater impact in counties designated Urban, but had a secondary effect in the Northwest and West Central Rural Counties. More importantly, program consistently implemented occurred in both Urban and Rural counties remote from the academic health science center whether the model employed was hospital based, academic health science center based or academic health science center based with a regionally based representative. From this perspective the hospital based model appears more effective in achieving impact in the rural counties.

Another perspective from which to view the same data will add depth and texiture the Urban/Rural description of WMAHEC's continuing education program outcomes. This perspective is that of Deficit/Surplus, where an area composed of one or more counties clustered around a particular town or trade center is described as a primary health care area and characterized as either "deficit" or "surplus" in terms of the resources each possesses to meet its primary health care needs. Such an analysis and designation was performed by the Office of Health Manpower Planning of the State of Missouri (revised in 1975). Using then the "deficit"/"surplus" designations from that analysis for the counties in the WMAHEC service region, the following perspective is provided on the continuing education data analyzed above using the

While in the real and absolute sense calculation of percents is not possible without discrete individual participant data, regardless of frequency of participation, such percents do - in the absence of individual data - provide an approximation of relative impact. Therefore Figure 9 compares actual participation with known target populations using a percent calculation. In this approximation it is obviously necessary to exercise considerable caution with interpretation.

Figure 9 suggests some interesting characteristics of the overall WMAHEC continuing education program and its impact.

a) 61% of the programs were held in urban counties for 64% of the participants.

b) of these 61% of the programs, 49% were held in the Urban Southwest counties of Jasper and Greene for 48% of the participants.

c) 38% of the programs were held in Rural counties for 36% of the participants.

d) of these 38% of the programs, 34% were held in the Rural counties of the Northwest and West Central Regions while only 5% were held in the Rural Counties of the Southwest Region.

WMAHEC Regions Showing Number of Counties	Urban Counties N=5 Number in Target Population	Number Participants	Percent	Rural Counties N=33 Number in Target Population	Number Participants	Percent	TOTAL Counties N=38 Number in Target Population	Number Participants	Percent
TOTAL WMAHEC N=38	8853	1232	14%	1809	687	38%	10662	1919	18%
	Programs = 40			Programs=25			Programs N=65		
Northwest N=9	580	311	54%	263	398	151%	843	709	84%
	Programs=7			Programs=9			Programs N=16		
West Central	6287	4	106%	977	260	27%	7264	264	4%
	Programs=1			Programs=3			Programs N=14		
Southwest	1986	917	46%	669	29	4%	2655	946	36%
	Programs=32			Programs=3			Programs N=35		

Figure 9 - WMAHEC - Year 07
Continuing Education Participants
Showing Impact on Target Populations
Expressed as a Percent

Urban/Rural designations of HURA, DHEW. Figures 10-12 contain descriptions of the productivity of each of the regional programs separately by county.

Intriguing changes in perspective result with this shift from the Urban/Rural criterion to that of Deficit/Surplus. Examples of these changes include:

a) the seven urban located programs in the Norwest disappear and zero programs replace them when surplus is subsituted.

b) more interesting yet in the Northwest Region is the oberwhelming of participants achieved in the deficit counties of that region -- all but 3 of 626!

c) 1 program held in the West Central Region was held in a deficit county, while 13 were held in surplus counties.

d) 3 of the 35 programs held in the Southwest region were held in deficit counties.

The most interesting changes in perspective, however, may be viewed in the participation data when it is

NORTHWEST REGION	Number and Location of Programs	Participants TOTAL	Participants Programs/ Surplus	Participants Programs/ Deficit
I. SURPLUS				
Clinton	--	8	--	8
DeKalb	--	4	2	2
SUBTOTAL	--	12	2	10
II. DEFICIT				
Andrew	--	36	--	36
(3) Atchison	1	22	--	22
(11) Buchanan	7	353	--	353
(38) Gentry	1	23	--	23
Holt	--	4	--	4
(74) Nodaway	7	171	1	170
Worth	--	5	--	5
SUBTOTAL	16	614	1	613
III. NORTHWEST TOTAL	16	626	3	623

Figure 10 - WMAHEC Continuing Education Year 07: Northwest Region - Showing Programs and Participants by Deficit/Surplus Counties and TOTAL.

WEST CENTRAL REGION	Number and Locations of Programs	Participants TOTAL	Participants Programs/ Surplus	Participants Programs/ Deficit
I. SURPLUS				
Benton	--	12	12	--
Clay	1	12	7	5
Henry	--	10	10	--
Jackson	--	13	3	10
Johnson	--	15	14	1
Lafayette	4	62	62	--
Pettis	4	52	52	--
Platte	--	--	--	--
Ray	4	79	77	2
St. Clair	--	--	--	--
SUBTOTAL	13	255	237	18
II. DEFICIT				
Bates	--	2	2	--
Cass	1	12	2	10
Cedar	--	1	1	--
Hickory	--	1	1	--
Vernon	--	23	23	--
SUBTOTAL	1	39	29	10
III. WEST CENTRAL TOTAL	14	294	266	28

Figure 11 - WMAHEC Continuing Education Year 07: West Central Region - Showing Programs and Participants by Deficit/Surplus Counties and TOTAL.

SOUTHWEST REGION	Number and Location of Programs	Participants TOTAL	Participants Programs/ Surplus	Participants Programs/ Deficit
I. SURPLUS				
Barton	--	6	6	--
Christian	--	13	13	--
Dade	--	5	5	--
Greene	17	336	335	1
Jasper	15	206	206	--
Newton	--	28	26	2
Stone	--	--	--	--
Taney	--	--	--	--
Webster	--	1	1	--
SUBTOTAL	32	595	592	3
II. DEFICIT				
Barry	2	22	9	13
Dallas	--	--	--	--
Lawrence	1	31	18	13
McDonald	--	5	5	--
Polk	--	6	6	--
SUBTOTAL	3	64	38	26
III. SOUTHWESTERN TOTAL	35	659	630	29

Figure 12 - WMAHEC Continuing Education Year 07: Southwest Region - Showing Programs and Participants by Deficit/Surplus Counties and TOTAL.

arranged comparatively using the Deficit/Surplus and Urban/Rural criteria. Figure 13 summarizes these data using both criteria.

The federal AHEC initiative has been addressed to both supply and distribution problems since its inception in 1972. Currently the statistics indicate that it has been successful - with other interventions both federal and state in origin - in increasing the number of available physicians by increasing the enrollments in medical schools and with the creation of new residency positions in the primary care clinical disciplines.

However, distribution has proved a tricky and stubborn problem. In rural and underserved areas supply is perceived still to be a problem because these areas are without the manpower resources they require. However, it is clear from the mounting evidence that the manpower is available but unwilling or unmotivated to locate in underserved areas. Figure 13 highlights this problem by revealing the differences between the impact of the three demonstration models of the WMAHEC regional programs. For instance, notice the dramatic difference in the impact of the Northwest regional program when the criterion of "urban" (and therefore presumably resource rich) is contrasted with the criterion "surplus" (and therefore specifically evaluated for the

REGION	'07 Participation URBAN	SURPLUS	RURAL	DEFICIT	TOTAL	COLUMN PERCENT
Northwest	275	3	351	623	626	
Row %	44%	.5%	56%	99%		40%
West Central	41	266	250	25	291	
Row %	14%	91%	86%	9%		18%
Southwest	630	630	29	29	659	
Row %	96%	96%	4%	4%		42%
TOTAL	946	899	630	677	1576	100%
	60%	57%	40%	43%		

Figure 13 - WMAHEC Continuing Education Participation for Year 07 comparing Urban/ Rural and Deficit/Surplus criteria.

resources required for primary health care). The impact is clearly not in the surplus areas (where the urban criterion in this instance is misleading and would force a false conclusion). By comparison, the Southwest regions impact is noticeably similiar whether the criterion of "urban" or "surplus" is used as the measure of impact. Figure 12 confirms the notion that the programs in the Southwest region were overwhelmingly offered in either Jasper or Greene counties which are both "Urban" and "surplus". The West Central region (the program for which was developed by the initiative of the central AHEC staff and the nursing component in Kansas City) appeared to have achieved impact in the underserved areas using "Urban/Rural" criteria. However, when the same data are inspected through the lenses of the "Deficit/Surplus" criteria the reverse appears to be the case. 91% of the West Central impact was clearly in the surplus areas, even if 86% of the participation was rural" in origin. Finally the Northwest and the Southwest regional programs were quite different measured by the number of programs implemented in Year 07 - Northwest did 16 programs while Southwest did 35. The Net participation, however, was different by only 2% (N=33).

Using "Deficit/Surplus" criteria to describe the impact of the WMAHEC continuing education program effort has provided

a useful and clarifying insight into the real penetration of the federal dollars into the deficit areas served by the WMAHEC contract. The Northwest regional program achieved 50% more impact in the "deficit" counties than the Southwest program with less than half the program effort. Further the programs of the Northwest program were conducted totally in the "deficit" counties - rather than expecting the health professionals there to go to the surplus counties for continuing education as was the program approach in the Southwest. The model of the Northwest regional program was clearly effective in achieving the program objectives of WMAHEC for continuing education. Neither the academic health science center based model employed in the West Central region nor the adaptation of that model with a local coordinator employed in the Southwest were anywhere near as effective.